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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL ROBERTS, THOMAS CRAIG MASTERMAN,  
EDWARD H. PARK, SCOTT BATSON, PHILIP SWEENEY,  
MINGCHIH M. TSENG, and STEPHEN C. WITKUS

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Appeal 2010-001801  
Application 10/036,022  
Technology Center 3700

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*Before:* JENNIFER D. BAHR, STEFAN STAICOVICI, and FRED A.  
SILVERBERG, *Administrative Patent Judges.*

BAHR, *Administrative Patent Judge.*

DECISION ON APPEAL

## STATEMENT OF THE CASE

Michael Roberts et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting under § 103(a) claims 52-54 and 57 as unpatentable in view of Endo (JP 1-72128, pub. May 15, 1989)<sup>1</sup>. Claims 1-51, 55, 56, and 58-60 have been canceled. We have jurisdiction over this appeal under 35 U.S.C. § 6.

Claim 52, reproduced below, is illustrative of the claimed invention.

An oral brush comprising:

- an elongated handle;

- a head portion, sized for insertion into a human mouth, extending from an end of said handle; and

- a brush portion comprising

- (a) at least one molded elastomeric element extending a sufficient distance from said head portion to contact one or more teeth, comprising a thermoplastic elastomer having a Shore A hardness of less than 55, said thermoplastic elastomer comprising a styrenic block copolymer, and

- (b) a plurality of non-elastomeric bristles extending from said head portion,

- wherein said molded elastomeric elements extends upwardly from said head portion in substantially the same direction as at least some of the non-elastomeric bristles.

## SUMMARY OF DECISION

We AFFIRM, but denominate the affirmance as a NEW GROUND OF REJECTION.

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<sup>1</sup> We refer to the English-language translation submitted by Appellants in an IDS filed Feb. 13, 2004.

### OPINION

Claim 52 requires, in relevant part, at least one molded elastomeric element having a Shore A hardness of less than 55. The Examiner found that Endo describes an oral brush having one or more elastomeric elements that are not molded. Ans. 3. However, the Examiner notes that the Specification describes the thermoplastic elastomers of the present invention as made by "conventional plastics processing methods ... well known in the art, such as extrusion or injection molding." Ans. 4; Spec. 3. The Examiner reasons that the method of forming the element is not "as significant as if the claim were drawn to a method of forming" the elements. *Id.* Appellants argue that Endo does not describe a molded elastomeric element, as required by claim 52, and that molded elements are different than extruded elements. Appeal Br. 3.

Appellants do not present any separate arguments in favor of the patentability of claims 53, 54, and 57 apart from claim 52. *See* App. Br. 8. Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii), claims 53, 54, and 57 stand or fall with representative claim 52.

Therefore, the dispositive issue in this appeal is whether the Examiner erred by concluding that Endo renders obvious an oral brush having a molded elastomeric element having a Shore A hardness of less than 55.

Appellants argue that Endo does not recognize that the elastomeric material should have a Shore A hardness of less than 55 and that there is no suggestion in the art to select a particular elastomer having that hardness. Appeal Br. 5-6. However, we find that Endo suggests that the elastomeric elements should massage the gums but be soft so as not to injure them. Endo, p. 5-6. We find that the present invention shares this concern. Spec.

1, ll. 13-23. The Examiner points out that it would not be outside the level of ordinary skill to select a material having appropriate hardness for the elastomeric element of Endo based on this intended use. Ans. 4. In other words, while Endo does not specify a Shore A hardness value for the thermoplastic elastomer, it would have been obvious to a person of ordinary skill in the art that Endo's soft thermoplastic elastomer should have the same hardness as Appellants' soft thermoplastic elastomer because they are both used in oral brushes for massaging gums without damaging them. *See In re Leshin*, 277 F.2d 197, 199 (CCPA 1960) (holding that it is obvious to select a known material based upon its known intended uses); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) (discovery of an optimum value of a result-effective variable is ordinarily within the skill of the art.); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). Appellants have not come forth with any evidence attempting to show that the selection of an elastomer having the particularly claimed hardness would have been beyond the technical grasp of a person of ordinary skill in the art. For the above reasons, the selection of an elastomer as described by Endo having a hardness as claimed appears to be the product not of innovation but of ordinary skill and common sense. Consequently, we do not find error in the Examiner's conclusion that one of ordinary skill in the art would have considered it obvious to select an appropriately hard elastomeric element for use in the oral brush of Endo (here, less than 55 Shore A hardness).

Appellants also argue that Endo does not describe molded elastomeric elements. Appeal Br. 3-5. Both Appellants and the Examiner state that Endo does not describe molded elastomeric elements. Appeal Br. 3; Ans. 3. The Examiner relies on a disclosure in the Specification, stating that the

materials of the present invention can be extruded or injection molded, to conclude that the particular manner of forming the elements are not significant because they result in the same product. Ans. 4 (referring to Spec., p. 3, ll. 21-25). The Examiner also states that the Specification alludes that the different forming techniques are interchangeable. Ans. 6. Notwithstanding these lines of reasoning, the Examiner has not gone so far as to make a finding that Endo describes molded elements or that it would have been obvious to modify Endo's elements to be molded. As such, the Examiner has not demonstrated that the prior art teaches or renders obvious a brush having molded elastomeric elements as claimed.

Upon closer review of the Examiner's proffered evidence of obviousness, we find that Endo describes an oral brush having elastomeric elements that are formed by melt spinning. Endo, p. 4. In melt spinning, a molten polymer is pushed through a mold<sup>2</sup> of tiny holes called a spinneret<sup>3</sup> and solidified by a blast of cold air. *Encyclopedia Britannica Online* at .../361113/man-made-fibre/82576/Melt-spinning. Thus, we find that the melt spun elastomers of Endo are molded. Claim 52 requires a "molded

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<sup>2</sup> In manufacturing, a "mold" is "a cavity or matrix in which a fluid or plastic substance is shaped into a desired finished product. A molten substance, such as metal, or a plastic substance is poured or forced into a mold and allowed to harden." *Encyclopedia Britannica Online* (2010) (retrieved from <http://www.britannica.com/EBchecked/topic/387944/mold>) (last visited Dec. 13, 2010).

<sup>3</sup> A "spinneret" is "[a]n extrusion die containing many small openings through which the hot or molten polymer is forced to produce filaments." *Academic Press Dictionary of Science and Technology* (1992) (retrieved from <http://www.credoreference.com/entry/apdst/spinneret>) (last visited Dec. 13, 2010). A "die" is "[a]ny of various tools or molds that are used for forming, casting, or finishing materials." *Id.* at .../apdst/die.

elastomeric element" but does not specify the particular molding process. "[T]he PTO must give claims their broadest reasonable construction consistent with the specification . . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation." *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). "[A]s applicants may amend claims to narrow their scope, a broad construction during prosecution creates no unfairness to the applicant or patentee." *Id.* at 1379. The Specification lists exemplary forming techniques but does not define "molding" to mean or require any particular process such as to exclude melt spinning. *See Spec.*, p. 3, ll. 21-25. Thus, Endo's melt spun elastomers satisfy the "molded elastomeric element" limitation of claim 52.

Appellants additionally argue unexpected results, as evidenced by a declaration. Appeal Br. 4-5. The Masterman Declaration states that "molded elastomeric elements exhibited better wear resistance than the elastomeric elements that were formed by extrusion." Masterman Declaration, para. 3. However, the Masterman Declaration does not specify what type of molding exhibited better wear resistance, nor does the Declaration specify what type of extrusion forming process has inferior wear resistance. Melt spinning is a form of molding, as we found above, and further, melt spinning is not the only form of extrusion molding. Thus, the Masterman Declaration lacks sufficient factual detail to permit us to assess its relevance to the claimed subject matter and the prior art. Additionally, the Declaration states that the "result was surprising" based on knowledge relating to Nylon bristles, but not elastomeric bristles. As such, the pertinence of that observation to the prior art and claimed invention, which

are directed to elastomeric bristles, is not clear. Moreover, the averments of unexpected or superior results in the Masterman Declaration are conclusory only, and are not supported by any objective test evidence. *See In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984) (an applicant relying on comparative tests to rebut a prima facie case of obviousness must compare his claimed invention to the closest prior art; where appellant failed to present any experimental data, appellants' assertions of unexpected results constituted mere argument, which cannot establish patentability).

Even assuming the Masterman Declaration were sufficient to demonstrate that Appellants' particular elastomeric molding process yields a superior result as compared with bristles formed by melt spinning, the result must be different in kind and not merely in degree. *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996) (*quoting In re Aller*, 220 F.2d 454, 456 (CCPA 1955)) (even if Appellants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, unless the modification "produce[s] a new and unexpected result which is different in kind and not merely in degree from the results of the prior art."). Appellants submit no evidence tending to show that their particular molding process is outside the capabilities of one skilled in the art or that the unexpected results of using such a process are different in kind.

After reviewing all of the evidence before us, including the totality of Appellants' evidence, it is our conclusion that, on balance, the evidence of obviousness discussed above outweighs the evidence of nonobviousness and, accordingly, the subject matter of claim 52 would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 at the



time Appellants' invention was made. *See Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1483 (Fed. Cir. 1997). Consequently, we affirm the Examiner's rejection of claim 52, and of claims 53, 54, and 57, which fall with claim 52, as unpatentable over Endo, but we rely on a slightly different factual basis than the Examiner because we find that Endo in fact teaches molded elastomeric elements. As such, we denominate the affirmance as a new ground of rejection.

### DECISION

The Examiner's decision is affirmed but denominated as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

### FINALITY OF DECISION

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides "Appellant may file a single request for rehearing within two months of the date of the original decision of the Board."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED; 37 C.F.R. § 41.50(b)

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